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09/407,136	09/27/1999	VADIM SHTEYNBERG	99RE036	2345

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EXAMINER

TUGBANG, DEXTER A

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 01/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/407,136

Applicant(s)

SHTEYNBERG ET AL.

Examiner

Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2001.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8, 14, 16 and 18-23 is/are pending in the application.
- 4a) Of the above claim(s) 3, 14-16 and 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-8, 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Continued Prosecution Application*

1. The request filed on 10/15/01 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/407,136 is acceptable and a CPA has been established. An action on the CPA follows.

### *Election/Restrictions*

2. Claims 3, 14-16 and 18-20 stand as being withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 4.

### *Claim Objections*

3. Claims 2, 5-8, 21 and 22 are objected to because of the following informalities: the preamble, i.e. "A method...", in each of dependent Claims 2, 5-8, 21 and 22 is inconsistent with the preamble of independent Claims 1 and 4. The examiner suggests amending the preamble in each of these dependent claims to read as --The method...--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1, 2, 6, 21 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, the variable “N”, as this refers to both an “N phase electromechanical device” (line 2) in the preamble and “N sets of segments” (line 3), is confusing, misleading and raises uncertainties as to what number N is referring to. Is “N” referring to the number of phases of an electromechanical device, or is it referring to the number of sets of segments? The same problems above with Claim 1 also occur in Claim 23.

In Claim 6, the variable “N times” (line 3), as this refers to both the “number of phases of the electromechanical device” (lines 3-4) and to the number of “N sets of M segments” (line 5), is confusing, misleading and again raises uncertainties as to what number N is referring to. How is it possible that N can refer to both number of phases of an electromechanical device and to number of sets of segments, at the same time? Furthermore in Claim 6, the recitation of “a common circular arrangement” (lines 10-11) is unclear if this is referring to the previous recitation of “a common circular arrangement” (lines 11-12 of Claim 4). How many “common circular arrangements” are there?

### *Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Searle 4,350,914.

Searle discloses a method of constructing a segmented wound member (motor) of a three-phase electromechanical device comprising: winding segments in which each segment defines a bobbin 2 and the segments 2 are wound with a single continuous length of wire 30 (shown in Fig. 2); and combining the segments 2 in a common circular arrangement to form the wound member (shown in Fig. 3). Searle teaches that the electromechanical device has 3 phases (see col. 4, lines 52-60) with 12 wound segments or bobbins 2. One set of segments is read as being equal to four segments or bobbins 2. As shown in Figure 3, Searle forms three sets of four segments for a total of twelve segments (bobbins 2). Accordingly, Searle can be said to wind one set of four segments separately from the other two remaining sets of four segments, to combine all three sets of segments into the common circular arrangement shown in Figure 3.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Searle in view of Varley 1,073,059.

Searle, as relied upon above, discloses the claimed manufacturing method including the following.

Regarding Claims 2 and 4, Searle teaches the steps of: arranging the segments 2 along a centerline axis of rotation of the winding dispenser 28 (in Fig. 2) where the segments would form at least 3 sets of segments; rotating the segments 2 and a wire dispenser 28 relative to each other about the centerline axis of rotation by rotating the wire dispenser around each of the segments 2 (see col. 4, lines 14-20); winding the segments during the relative rotation of the wire dispenser around the segments (shown in Fig. 2); and repeating the arranging step, rotating step, and winding step for each of the two remaining sets of segments of the three sets of segments.

Regarding Claim 5, Searle shows that each of the segments 2 of the plurality of segments is wound from a continuous length of wire 30 from the wire dispenser 28 (in Fig. 2).

Regarding Claim 6, with each set of segments 2 being read as four segments, Searle teaches that the above arranging, rotating, winding and combining steps are performed at least *three* times, which is equal to the number of phases of the electromechanical device (3 phase, 12 pole motor, see col. 4, lines 52-56). As shown in Figure 3, Searle forms three sets of four segments to form a total of twelve segments 2. The number of twelve segments is equal to the number of poles (12 poles) of the electromechanical device, as all of these sets of segments are combined into a common circular arrangement.

Regarding Claims 2, 4, 5 and 6, Searle teaches substantially of the limitations of the claimed manufacturing method except that within the step of arranging, the segments 2 are in a *side-by-side orientation* along the axis of rotation.

Varley teaches that multiple segments (formers 3) can be arranged in a *side-by-side orientation* along a common, centerline axis of rotation (centerline of shaft 2 shown in Fig. 7) for the purpose of winding a plurality of segments. The benefits of such side-by-side winding

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process allow the segments to be accurately formed with any desired gage of wire (see page 1 of disclosure, lines 70-75).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Searle, by arranging and winding the segments in a direct *side-by-side* relationship along a common, centerline axis of rotation, as taught by Varley, to positively wind a plurality of segments with greater accuracy and with any desired gage of wire.

10. Claims 7, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Searle in view of Varley, as applied to Claims 1, 2 and 4 above, and further in view of Japanese Patent Publication JP 60-182119, referred to hereinafter as JP'119.

Searle, as modified by Varley, teaches the claimed manufacturing method as previous discussed. The modified Searle method does not teach that the segments rotate relative to the wire dispenser with the wire dispenser remaining substantially stationary.

JP'119 teaches the conventional concept of rotating the actual segments 2a, 2b, 2c, 2d itself while the wire dispenser remains stationary (shown in Fig. 5) to form a wound member from a continuous length of wire 1 (see arrow indicating rotation of the segments in Fig. 8). Such an advantage of the JP'119 winding concept provides a wound member without decreasing the magnetic characteristics (discussed in PURPOSE). Furthermore, whether the wire dispenser rotates and each segment is stationary or that the wire dispenser is stationary and each segment rotates, each of these winding concepts are considered to be art recognized equivalents in producing a wound member.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified each of the methods of Searle by utilizing the winding concept of JP'119, to positively form the wound member without decreasing the magnetic characteristics. Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the wound members of Searle by either (1) keeping each of the segments stationary and rotating the wire dispenser, or (2) keeping the wire dispenser stationary and rotating each of the segments, as each is considered to be art recognized equivalents in forming wound segments.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Searle in view of Varley, as applied to Claim 4 above, and further in view of Japanese Patent Publication JP 57-42112, referred to hereinafter as JP'112.

Searle, as modified by Varley, teaches the claimed manufacturing method as previous discussed. The modified Searle method does not teach moving the wire dispenser along an axis that is parallel to the axis of rotation.

JP'112 teaches, by the use of an X-Y table 20 (shown in Fig. 4), that the winding dispenser (nozzle 7) moves in an X-direction which is parallel to the arrangement of segments 3 in a side-by-side relationship. The X-axis (shown in Figures 10 and 11) is considered to be the centerline of the segments and the axis of rotation of which the segments are wound around as the winding dispenser (nozzle 7) moves parallel to this axis of rotation to wind the multiple segments. The benefits of such a winding process allow the multiple segments to be wound continuously (see Abstract and Constitution).



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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have changed the modified Searle method by moving the wire dispenser in a direction parallel to the axis of rotation, as taught by JP'112, to achieve the same function of winding multiple segments and advantageously wind the multiple segments continuously.

12. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Searle in view of JP'112.

Searle discloses a method of constructing a segmented wound member of a three phase electromechanical device comprising: winding segments in which each segment defines a bobbin 2 and the segments are wound with a single continuous length of wire 30 (shown in Fig. 2); arranging the segments 2 along a centerline axis of rotation of the winding dispenser 28 (in Fig. 2); rotating the segments 2 and a wire dispenser 28 relative to each other about the centerline axis of rotation by rotating the wire dispenser around each of the segments 2 (see col. 4, lines 14-20); winding the segments during the relative rotation of the wire dispenser around the segments (shown in Fig. 2); repeating the arranging step, rotating step, and winding step for each of the two remaining sets of segments of the three sets of segments; and combining the segments 2 in a common circular arrangement to form the wound member (shown in Fig. 3). Searle teaches that the electromechanical device has 3 phases (see col. 4, lines 52-60) with 12 wound segments or bobbins 2. One set of segments is read as being equal to four segments (bobbins 2). As shown in Figure 3, Searle forms three sets of four segments for a total of twelve segments (bobbins 2). Accordingly, Searle can be said to wind one set of four segments separately from the other two remaining sets of four segments, to combine all three sets of segments into the common circular arrangement shown in Figure 3.

Searle does not teach that the segments are arranged in a side-by-side orientation along a single axis of rotation and moving the wire dispenser in a direction parallel to the axis of rotation to a position adjacent to the next segment.

JP'112 teaches a winding process, by the use of an X-Y table 20 (shown in Fig. 4), in which the winding dispenser (nozzle 7) moves in an X-direction parallel to the arrangement of segments 3 in a side-by-side orientation, and in a Y-direction around the segments 3 to wind the segments (as shown in Figs 7 and 8). The X-axis (shown in Figures 10 and 11) is considered to be the centerline axis of rotation of the segments in the side-by-side orientation of which the segments are wound around as the winding dispenser (nozzle 7) moves parallel to this axis of rotation. JP'112 further teaches the step of moving the wire dispenser parallel to the axis of rotation of the centerline of segments (X-direction) to a position of the next segment 3, then returning to the winding step to wind the next segment 3, such that the winding step and the moving step are performed until all of the segments are wound (shown in the sequence of Figures 9-12). The benefits of such a winding process allow the multiple segments to be wound continuously (see Abstract and Constitution).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Searle by utilizing the winding process which includes arranging the segments in a side-by-side orientation along a single axis of rotation and moving the wire dispenser in a direction parallel to the axis of rotation to a position adjacent to the next segment, as taught by JP'112, to achieve the same function of winding multiple segments and advantageously wind the multiple segments continuously.

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*Response to Arguments*

13. Applicant's arguments filed 9/26/01 in the Request for Reconsideration (Paper No. 11) have been fully considered but are now considered moot in view of the new grounds of rejection set forth above. Particularly in light of the teachings of JP' 112 and Varley of arranging multiple segments in side-by-side orientation along an axis of rotation for winding.

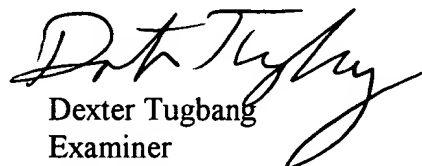
*Conclusion*

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3590 for regular communications and 703-305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

  
Dexter Tugbang  
Examiner  
Art Unit 3729

adt  
December 20, 2001